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**THE ARMY BUDGET AND SECOND DESTINATION
TRANSPORTATION**

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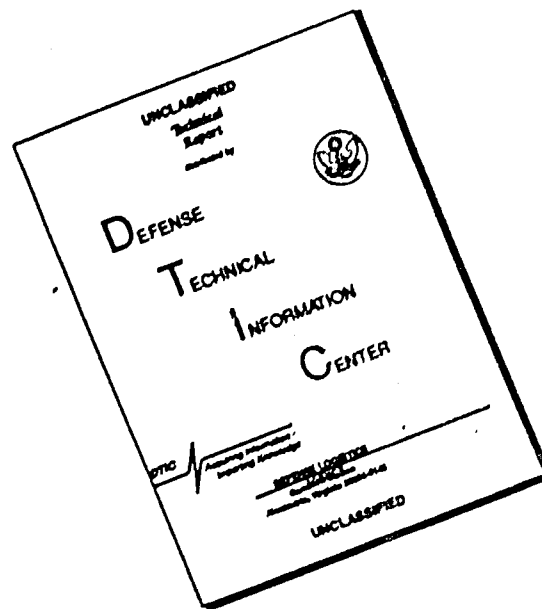
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15 January 1973

THE ARMY BUDGET AND SECOND DESTINATION FOR AMMUNITION

LIEUTENANT COLONEL DAVID F. WILSON

TRANSPORTATION CORPS

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USAWC RESEARCH PAPER

THE ARMY BUDGET AND SECOND DESTINATION TRANSPORTATION

A MONOGRAPH

by

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15 January 1973

ABSTRACT

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Programing, budgeting, and management of overocean movement costs chargeable to Program 7--Central Supply and Maintenance, Program Element 728010 Second Destination Transportation (SDT)--have been a major Department of the Army problem for several years. The problem was found to result from the Army's current financial management practices, from the basic orientation of the logistical system and from the program and budget system itself. The paper concentrates on the programs and budget for the overocean portion of SDT and examines the current efforts to solve the problem. Data were gathered primarily from files, records, and personal interviews with personnel from the Office of the Director of Army Transportation. The paper was written for the purpose of publication as an article in logistics and transportation magazines. It was concluded that the current system, which operates essentially as an open allotment, makes the customer-oriented logistics system possible; that commanders and managers must become aware of the fact that there is no "free" transportation; that the Army must develop the capability to audit the transportation industrial fund bills; that the SDT programing and budget system must be disciplined; and that there is no magic black box that will forecast SDT requirements.

PREFACE

This paper could not have been written without the support of the Director of Army Transportation and the able assistance of Mr. Leonard I. Nichols, Chief Program Branch, Transportation Analysis Division, Office of the Director of Army Transportation. Mr. Nichols not only provided data from his records and working papers but also gave during an extensive interview with the author advice and assistance which was instrumental in producing the paper.

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INTRODUCTION

A giant Air Force C-5 Galaxy touches down at Tan Son Nhut airbase. Within minutes its priority cargo which includes a M113 Armored Personnel Carrier (APC) is being off loaded for delivery to a US armored cavalry unit heavily engaged with an NVA regiment near the Cambodian border. Just another example of interservice cooperation and mutual support--right? Right.

The Army's financial contribution to put this piece of combat equipment into action spanned the entire spectrum all the way from R&D to its ultimate operating costs--"womb to tomb" management--sound stuff. And no need to worry about its timely arrival at the point of decision, since the Air Force picked up that bill in its mission operating costs--right? Wrong! That one-way trip cost the Army \$10,190--an amount equal to one-third of the procurement cost of the carrier.¹

So, the cost of living (and fighting) goes up. And, if it is DOD policy that the "user" pay for the services of the Air Forces airline, then the trusty budgeteers who handle the supply business had it covered all along--right? Wrong! The supply programming system doesn't cover this essential financial aspect of getting the goods to where the action is.

Who, then, are the almighty prophets who foresee how much an Army will need to be transported to a combat zone?--and from whence it will come?--and the timing and urgency of its need?--(the APC could have been sealifted for just 10 percent of the cost of

airlift²)--and how good is the track record in such a hazardous undertaking where the stakes ran up to a billion dollars at the peak of the Vietnam War (see Figure 1)?

This paper will address these questions and will analyze the Department of the Army's system for budgeting and programing for overocean movement of army cargoes--a relatively unpublicized but vital logistical operation.

Several definitions are required to limit the scope of this analysis and to focus on only the major aspect of the Army's gigantic transportation requirement. The movement of personnel and their household goods is "transportation" as perceived by most service members. The movement of personnel and household goods, although very important, is a small part of the Army's transportation requirement. The movement of the materials of war from the depots, ocean, and air terminals in the US to our forces deployed worldwide is known as Second Destination Transportation (SDT) and constitutes a far more complex and demanding requirement (see Figure 2). First Destination Transportation, on the other hand, is movement from the procurement source to the first point of rest in the Army's supply system, which is normally a depot or a terminal and the cost is usually included in the price of the item. These latter movements are arranged by the vendor and do not move under Army or DOD control. Once the supplies are in the supply system, all further movements are considered Second Destination Transportation.

SDT includes movement of supplies in CONUS between CONUS and overseas theaters, within and between theaters, and by all modes

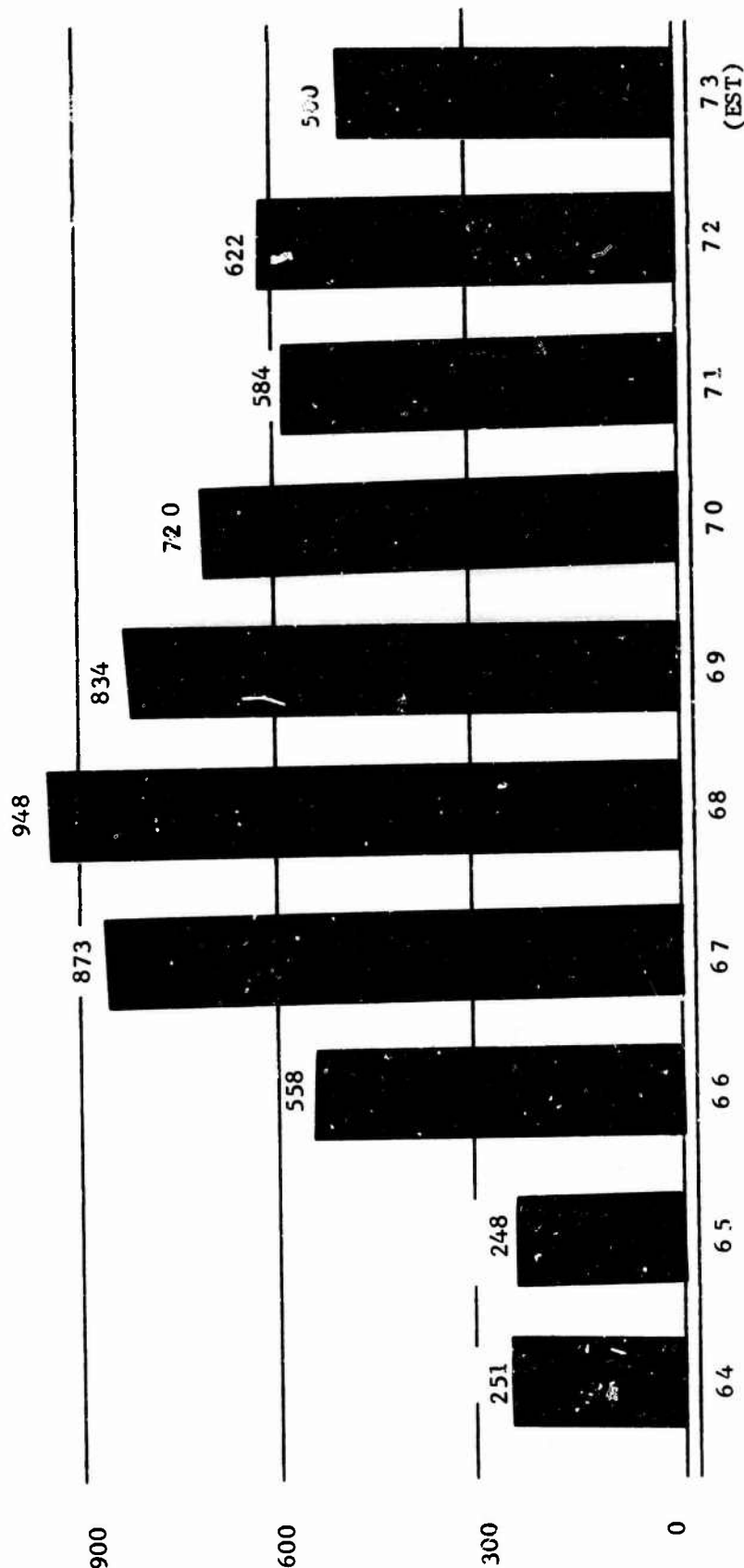
FIGURE 1

O & M A

SECOND DESTINATION TRANSPORTATION

\$ MILLIONS

1200



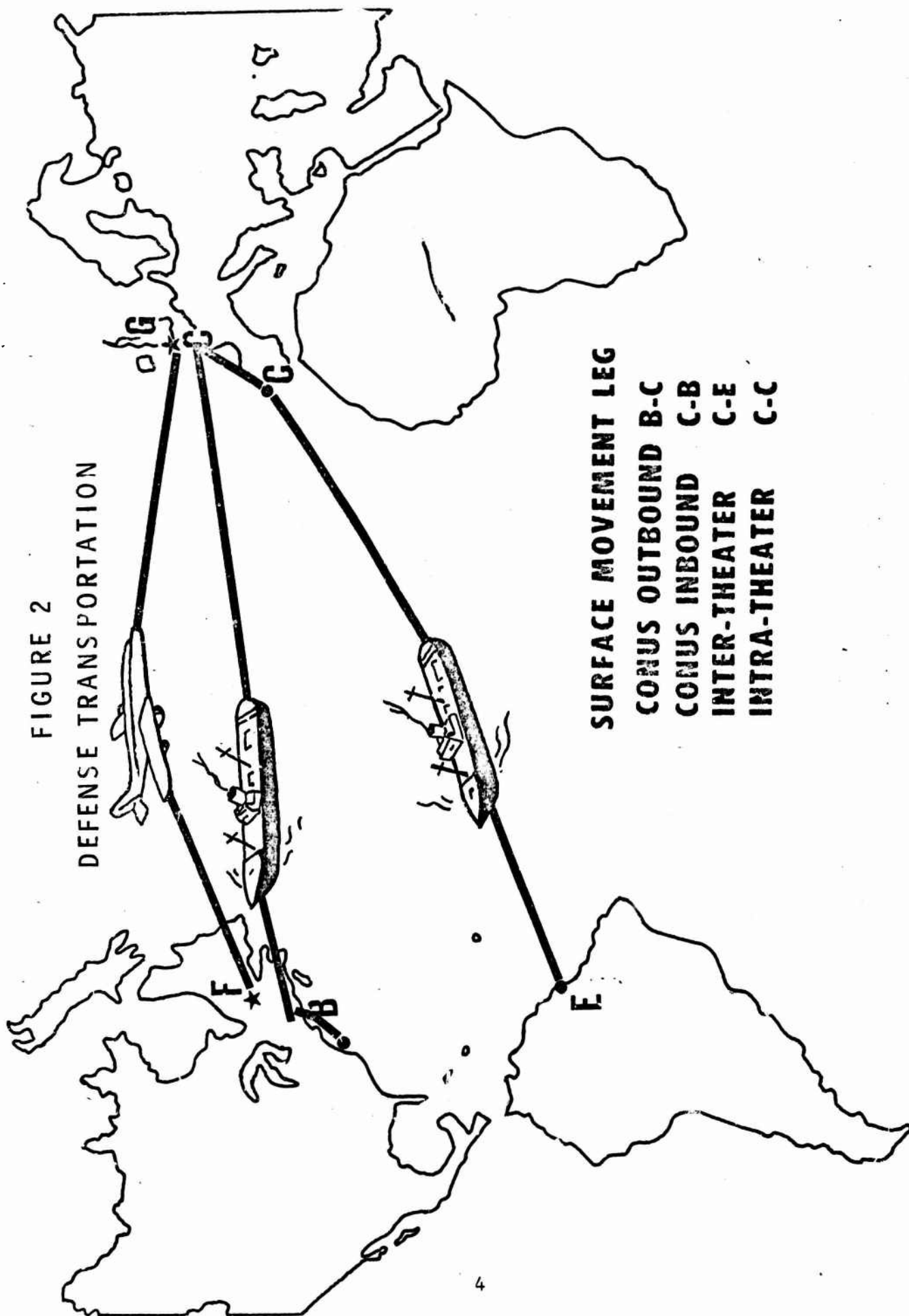
FISCAL YEAR

FY 64-71 REPRESENT ACTUAL DIRECT OBLIGATIONS

Source: Program Branch, Transportation Analysis Division, Directorate of Army Transportation, Deputy Chief of Staff for Logistics, Presidential Budget Submissions (Working Papers).

FIGURE 2

DEFENSE TRANSPORTATION



of transportation. SDT is actually a financial term and is precisely defined in AR 37-100-73, The Army Management Structure in the context of what transportation costs are paid by SDT funds. Simply stated, SDT funds pay for the worldwide movement of troop support supplies but do not pay for movement of military personnel and their household goods, TDY travel, or for the movement of such things as shipments for training, research and development, military construction, etc. Transportation services by rail truck, commercial air, etc. within both CONUS and the overseas theater constitute only about twenty-five percent of the total cost of SDT and are normally furnished by commercial carriers (see Figure 3). These services are budgeted and funded for by the Theater Commander or CONUS shipping agency and the carrier is paid for its services by the Theater Finance Officer or in CONUS by the USA Finance Support Agency in Indianapolis, Indiana. Overland movements and their costs are tightly controlled by field commanders and are not considered a major problem; consequently, they will not be considered here in detail. The most difficult and expensive portion of SDT is "overocean movements" which are shipments between water and air terminals in CONUS and the overseas theater, and between overseas theaters.

Programing, budgeting, and management of overocean movement costs chargeable to Program 7--Central Supply and Maintenance, Program Element 72810 Second Destination Transportation--have been a major Department of Army problem for several years. This paper will concentrate on how the programs and budget for this portion of SDT are put together and will examine some current proposals to solve these problems.

FIGURE 3

PROGRAM 728010 SECOND DESTINATION TRANSPORTATION FUNDING RESPONSIBILITIES

AGENCY	FINCISCOM (75%)	TAG	USARLUR	USARPAC (Except SEA)	1/ Southeast Asia	USARAL	USARSO	CONARC	AMC	TSC	SCC	OCE
TYPE												
AIRLIFT (MAC)	2/	3/										
SEALIFT (MSC)												
CONUS PORT HANDLING (MTMTS)												
TRANSPORTATION SERVICES WITH- IN COMMANDS ^{4/}												

1/ Southeast Asia transportation services costs are funded from Program 2.

2/ Other than overocean airlift of APO mail.

3/ Overocean airlift of APO mail (Commercial and MAC).

4/ Includes inland transportation; rental and lease of transportation equipment; and thru B/L.

Program 728010 funding responsibility.

Source: Program Branch, Transportation Analysis Division, Directorate of Army Transportation, Deputy Chief of Staff for Logistics, Department of the Army.

Figure 3

BACKGROUND AND PROBLEM DEFINITION

In 1947 a commission headed by ex- President Hoover made a study of United States Government organization, administration, and fiscal accounting practices.³ As a result of the commission's recommendations, the 81st Congress amended the National Defense Act of 1947 and directed the services to adopt a performance-type budget. Performance budgets identify the cost of performance of readily discernible functions, programs, and activities and separate operating and capital programs.⁴

This act also created the industrial funds sytem under which DOD's common user transportation services are operated. The Army is the single service manager for Traffic Management and for operation of ocean terminals in CONUS. The Military Traffic Management and Terminal Service (MTMTS) is the organization which performs these functions. The Military Airlift Command (MAC), operated by the Air Force, provides airlift services and the Military Sealift Command (MSC), operated by the Navy, provides sealift services. These organizations are assigned the responsibility for furnishing the Military Departments transportation services on a reimbursable basis. Traffic management services are an exception. The Army reimburses MTMTS for the total cost incurred (about \$18 million per year) in furnishing traffic management for movement of all DOD traffic.⁵

Each industrial fund submits a detailed budget, including the tariff rates to be charged to the customer, to DOD for approval.⁶

The rates include all costs which are related to the services furnished and are based on the forecast of requirements (volume of business) submitted by the Military Departments. The funds all operate on a "no-profit, no-loss" basis. If it appears that the "no-profit, no-loss" position for any fiscal year will not be attained, the fund manager submits a request to OSD for authority to revise the rates to arrive at a break-even position. Thus, the Army pays for every ton of cargo moved or handled by the transportation industrial funds from its slice of the national defense budget. The Army payments to the transportation industrial funds are in essence the same as paying a civilian contractor. The fund buys the service from a civilian contractor or uses its in-house capability and adds a generous amount for its overhead before sending the services a bill. In 1968 SDT cost the Army almost \$1 billion and even in the relative peace of FY 73, the Army will spend about \$500 million with about 75 percent going to the transportation industrial funds for overocean movement of Army cargo.⁷ Even though commanders, supply managers or shipping transportation officers do not plan, program or budget for these costs, they are real costs to the Army and pose a formidable programing, budgeting, and management problem.

The essence of the problem is that the Army has not been able to forecast accurately its requirements for overocean lift, to budget accurately, and convincingly to justify the funds needed to reimburse the transportation industrial funds. The difficulty stems from the Army's current financial practices, from the basic

orientation of the logistical system, and from the program budgeting system itself. The problem is as old as the transportation industrial funds and has emerged year after year without resolution. It appears that policy changes, reprogramming actions, new programs and operations, as well as combat operations, are initiated without fully considering the impact on SDT funds. For several years SDT has been underfunded in the Program and Budget Guidance, which also directs that the program be held at a level below the requirement. This is totally unrealistic, as will be pointed out later. In addition, the apparent softness in the SDT program has been an open invitation for senior managers to manipulate the funds by merely assuming that the requirement will not materialize. The SDT program has been used as a "balancing account" for several years,⁸ i.e., SDT funds were arbitrarily transferred to other programs with the philosophy of "we can always get the money to pay the transportation bill."

This philosophy was vividly illustrated in 1969 when the FY 71 SDT program was reduced by \$202 million without addressing a corresponding reduction in the requirement for overocean lift.⁹ The Army was trying to finance new MVA programs, fight a war, reduce the budget, and prevent wholesale reductions in logistical personnel. Then the crunch came in October 1970 when there were no dollars available and no one knew if the forecasted requirement for \$659 million in SDT funds would materialize or not, and the program contained only \$457 million.¹⁰ DOD would not even entertain a request for additional funds and directed the Army to reprogram

in-house if it could not pay the bill. The transportation industrial funds were clamoring for an accurate forecast because if the forecasted tonnages did not materialize, their rates would have to be raised at the onset. The problem of programing and budgeting for SDT had surfaced again with a \$200 million bang!

A quick overview of the philosophy used in DOD programing is necessary to see SDT in relation to the other Five Year Defense Programs (FYDP), and to obtain some insight as to how this dilemma can occur. The ten FYDP programs are designed to encompass functional areas and include all costs directly chargeable to that program. Hence, all programs include transportation costs that are unique to that program function, but SDT costs are carried only in Program 7 Central Supply rather than in the supported program. For example, Program 2--General Purpose Forces--includes funds to defray transportation costs for training, command (TDY) and any other transportation costs necessary to carry out the program as well as the funds to buy the supplies and equipment required by the program function, but not the SDT funds required to move the supplies through the supply system. Program 7 Central Supply and Maintenance provides funds for operation of supply and depot maintenance support activities above the post, camp and station level and SDT funds for movement of supplies through the supply system to the consumer. In short, Program 7 finances the Army's logistical system itself rather than the materiel that flows through that system. The data and management systems used to develop Program 7, i.e., the number of depots, procurement offices,

storage facilities, maintenance cost and all the myriad of facilities and activities required by the supply system, is not designed to also develop the number of tons by specific transportation commodities that are to be shipped from specific origins to specific destinations by a specific mode of transportation. Similarly, the data and management systems used to develop requirements for the other nine FYDP programs do not address the SDT costs generated by their activities. This is the crux of the problem.

The supply system is, as it ought to be, structured to respond to the requirements of the soldier in the field. Transportation costs are generated as a result of a requisition submitted by a unit or activity, the priority of the requisition and the stock level in the depot. These costs are based on weight and cube of the shipment, distance to be shipped, the transportation commodity, and mode of transportation. If the requested item is routine stockage replenishment, it is shipped overseas by sealift at a worldwide average of about \$95 per ton.¹¹ On the other hand, if it is a high-priority item and stocks are not on hand in the theater, it will be shipped by air at a worldwide average of about \$563 per ton.¹² Supply managers operate in terms of line items, number of requisitions, days of supply, stockage levels, and DOD's ten classes of supply which are not compatible with overocean transportation tariff commodities on which SDT costs are based. Their management information systems also are not geared to produce data upon which to accurately compute transportation costs, i.e., specific number of tons by transportation commodities that are to

be shipped from specific origins to specific destinations by specific mode of transportation. In addition, CSA, DSA, and civilian sources of supply all using slightly different systems are shipping with SDT funds to the four corners of the globe and overseas commanders are retrograding cargo back to CONUS with SDT funds. The Army Materiel Command and the theater commanders attempt to forecast SDT requirements for the budget year (18 months in advance) but find it very difficult to accurately predict exactly what the soldier in the field will need and how fast he will need it.

FINANCIAL MANAGEMENT

Before considering the problems of forecasting requirements (programming) and budgeting for SDT, a brief review of the current management of SDT funds for overocean movement would be helpful. The Finance and Comptroller Information Systems Command (FINCISCOM), a field activity of the Comptroller of the Army, has formal budget and funding responsibility for SDT funds to reimburse the transportation industrial funds (MAC, MSC and MTMTS) for services rendered. The FINCISCOM, however, simply acts as a banker for paying the transportation industrial fund's bills and does not manage the funds or control expenditures. However, FINCISCOM performs all other administrative functions normally accomplished by a field command (see Figure 4). The Director of Army Transportation (DAT), Deputy Chief of Staff for Logistics (DCSLOG) prepares the SDT budget and fund estimates, develops the budget justification, defends the budget at all budget hearings, and is charged with continuous review and analysis (management) of budget execution.

The SDT accounting records have been automated and are now being maintained by the USA Finance Support Agency (FSA) in Indianapolis, Indiana, which is another field activity of COA. Previously, the records had been manually maintained by FINCISCOM's Finance and Accounting Office and were recently moved to Indianapolis.¹³ The manual system maintained by FINCISCOM was completely unsatisfactory for management purposes and was one of the principal problems in producing a valid budget estimate.¹⁴ The reports generated by the

manual system were not timely (over 90 days after the billing date) and reflected only total dollars. Consequently, no actual expenditures for specific air channels, MSC trade routes or for individual commands were available for development of the budget. The Finance Support Agency now receives the bills from the industrial funds on magnetic tape which reflects the Transportation Account Code (TAC), Transportation control number (TCN), port of debarkation, commodity codes, weight, cube, and charges. The bills are reviewed by FSA to determine that all TAC codes are valid (not validity of proper use by shippers or proper citing by the fund), and FSA reconciles the charges by accounting classification. The review does not include an evaluation for transportation purposes and consequently, none is performed--the bills are accepted and promptly paid at face value. In fact, the Army does not have the capability to ascertain the propriety of the charges, so the bills are paid based on good faith. While there is no hard evidence that any of the billings are improper, the numerous corrections, large fluctuating estimates, and large billings at the end of the year indicate that the Army might be able to effect significant savings by an audit of the bills. The Finance Support Agency, which is DAT's only source of financial data, however, does produce the MECHTRAM¹⁵ cost reports which provide DAT with the essential information (dollars with associated tonnages by trade route and channel) for financial programming and budgeting. This report will be discussed in more detail later in this analysis.

It was previously pointed out that neither the requisitioner nor the shipping agency has any responsibility for or control of SDT funds used for overocean movement. Who, then, does control or manage the expenditure of SDT funds? The funds are centrally programed and budgeted for by DAT and centrally disbursed by the Finance Support Agency, but it is still the requisitioners and supply agencies worldwide which initiate the actions that result in expenditure of the funds. SDT funds for overocean movement, then, are administered essentially as an open allotment and the industrial funds have in effect a "blank check" to cover services rendered. The only way DAT could effectively reduce the rate of expenditure or hold expenditures to a predetermined level is to embargo the use of premium transportation (airlift) or embargo other shipments either selectively or completely. This is obviously an unacceptable solution since it would play havoc with the Army's logistical system.

There are basically two seemingly logical alternative solutions to the problem--have either the requisitioner or the supply agency program, budget, and disburse the funds for overocean movement. If the requisitioners had to fund the cost, they would have to determine in advance the total transportation cost of each requisition, furnish fund citations to the shipper, and obligate the funds. Fund obligations would have to be adjusted as advice is received from the shipper as to the actual expenditures. There could and would be vast differences from the initial estimates. The transportation cost of a requisition is affected by such things as whether the item will be shipped from a depot or from procurement

source; the land mode of transportation; the routing to the port in CONUS and method of shipment (container or break bulk); overocean mode of transportation; overseas point of arrival; and many more details that can only be determined by agencies outside the requisitioner's control. It is obvious that most of this information could not be determined in advance and the requisitioner would have no means to control or manage his obligation..

The supply agency or shipper could better estimate the costs outlined above but would have equally difficult problems. The point of arrival in the overseas theater cannot even be determined until the shipment actually enters the pipeline. The transportation industrial funds would have to segregate their billings by shipping agency rather than billing central funds as at present. The shipping agencies would also have to provide the overseas command with a fund cite for inland movement or the overseas commander would have to fund for that portion of the movement. Basically, this was the solution recommended by a joint DCSLOG and COA Study Group in 1971.¹⁶ However, after a detailed analysis of the cost of administering such a system and its shortcomings, it was not implemented. The Army Materiel Command (AMC) estimated it would require 148 personnel spaces and about \$1.7 million annually to operate the system at commodity command levels or 36 personnel spaces and about \$570 thousand annually to operate it at AMC headquarters.¹⁷ These costs did not include the expense of changes in operating procedures of the transportation industrial funds and other agencies, and AMC could not guarantee that over obligations would not occur. DA is trying to develop a better financial management system for SDT, but has not yet developed a viable alternative to the present system.

FORECASTING REQUIREMENTS

In conjunction with his management of SDT funds, the Director of Army Transportation is also responsible for developing the Army's short- and long-range forecast of requirements for overocean airlift and sealift. The monthly Short Range Forecasts, which will not be addressed here, are used by the transportation industrial funds principally for assignment of space and day-to-day operations. The Long Range Forecast is the basis for the industrial fund budgets and development of their tariff rates, and includes the workload for the SDT overocean program and budget. The forecast includes requirements for other budget programs, but SDT is by far the largest requirement.

The mass of detail required for a meaningful forecast, the magnitude of variables involved, and the fact that it must be prepared 18 months prior to the budget year explain in part the difficulty of producing an accurate forecast.¹⁸ The forecast for sealift includes the number of measurement tons to be moved over each MSC designated trade route by MSC specified commodity groupings. The trade routes are established between eight CONUS geographical areas, which are subdivisions of our coasts, and 57 other areas of the world. This results in 457 possible routes from CONUS and 457 to CONUS. In addition, all traffic moving between overseas areas and between coastal areas of CONUS must be forecasted. The number of measurement tons moving over each trade route must be specified in terms of the ten MSC commodity classifications, i.e., general,

freeze, chill, ammunition/explosives, assembled aircraft, POVs, HHG, special, ro/ro vehicles, and empty conex containers. It should be noted that supply records do not reflect measurement tons or MSC commodities and that our planning manuals (FM 101-5 and FM 101-10) deal in short tons and the ten DOD classes of supply.

The MAC forecast is made in short tons and by channel. Channels are established between the ten MAC air terminals in CONUS and 98 overseas air terminals. There are currently 315 active MAC channels over which movements must be forecasted.

The manner in which DAT arrives at the forecast can best be illustrated by the model shown in Figure 4. Each command and agency submits a forecast of what it expects to move overocean for the program period.¹⁹ Usually, these forecasts cannot be used as submitted, because the commands are not cognizant of all the current fiscal guidance, strength changes and policy decisions made by DA and DOD and because they have no data base that reflects their current supply programs in transportation terms. They normally use past performance data (the number of tons shipped last year) and subjective judgment to produce their forecast. In past years DAT has not provided feedback to the commands that indicated the accuracy of their forecasts; consequently, little effort has been exerted to improve their techniques or to develop new data bases. Attempts are now being made to provide this feedback, but feedback after two years has elapsed and when DA had not used the forecast as submitted may be of questionable value.

FIGURE 4

DEVELOPMENT OF OVEROCEAN MOVEMENTS FORECAST

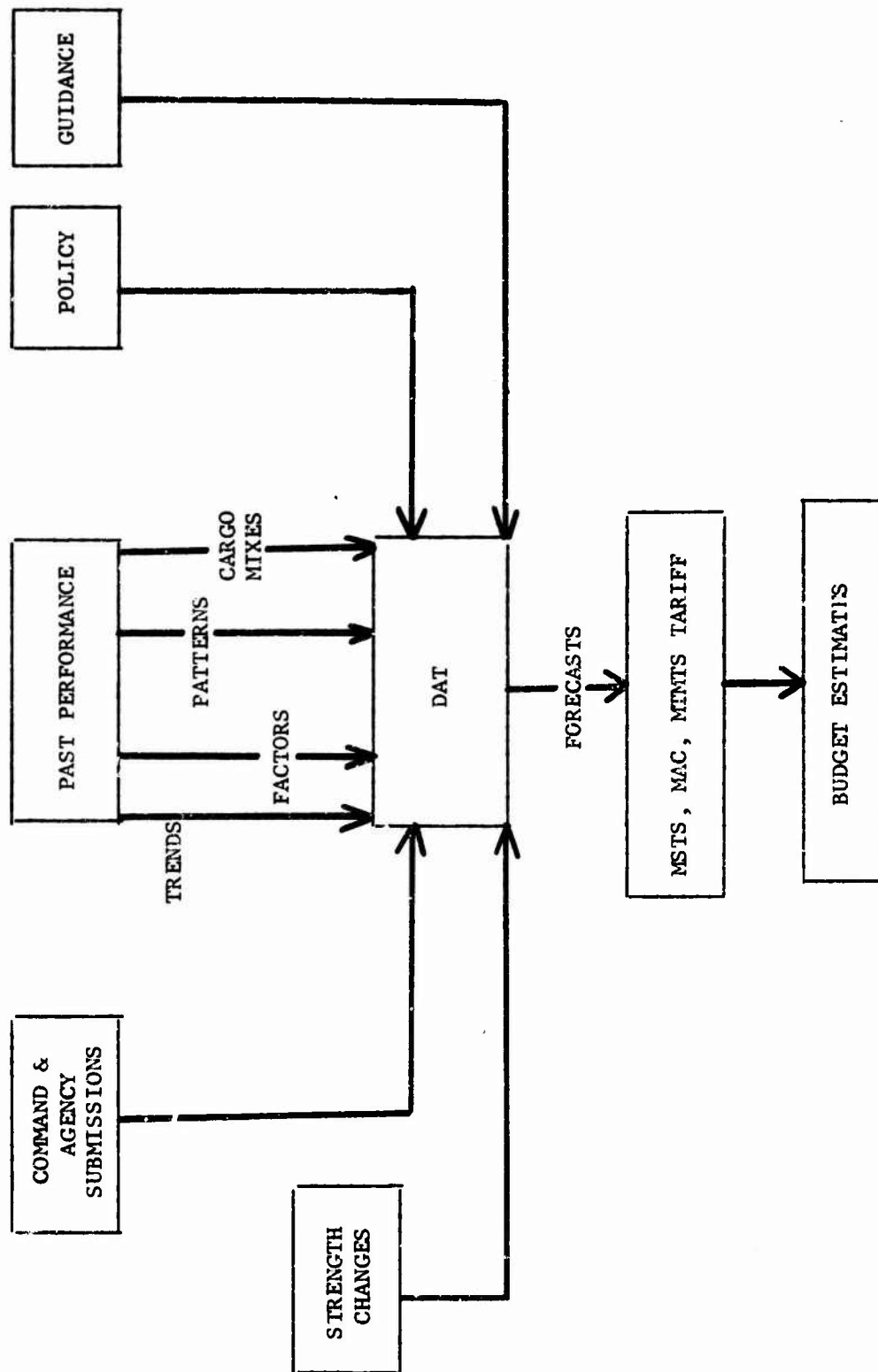


Figure 4

As indicated in Figure 4 DAT begins by analyzing the previous years actual performance and attempts to derive any trends (changes from previous years), changes in traffic patterns, changes in cargo mix (commodities), and factors (percentages and ratios) that might provide insights into future years or provide a basis for computing program changes. The command submissions are consolidated into the same format as the performance data and are compared in detail and tested against the trends and changes derived from the past performance data. DAT programmers then attempt to convert all known fiscal guidance, strength changes, and policy decisions into actual specific changes in the number of tons moving over specific trade routes and air channels. Should there be any significant difference in the command submissions and last year's performance that cannot be explained by policy or guidance changes, action is initiated with the DA Staff and the commands to verify the accuracy of the forecast. For example, in 1970, while developing the FY 72 budget and revising the FY 71 current year figures, the DCSLOG Director of Ammunition indicated that there would be a sizeable drop in the shipment of ammunition.²⁰ However, the forecast from AMC indicated a continuing level of effort. The previous year's performance did not indicate a downward trend. After carefully checking the data with both AMC and the Director of Ammunition, it was determined that a sizable reduction could be expected which resulted in a significant change in the budget and in MSC's workload. Similar actions are taken throughout the programing and budgeting cycle and the forecasts are revised whenever significant changes are known.

The transportation industrial funds then use DAT's forecast as a basis for developing their own budgets and rates, and DAT uses the forecast as a basis for developing the SDT budget.

THE BUDGET

The DAT is the Program Element Director for SDT and is responsible to the Major Program Director of Program 7--Central Supply and Maintenance (the ADCSLOG S&M)²¹--for development of the SDT program and budget. The SDT budget is formally a part of the Program 7 congressional budget, but it is considered as a separate entity throughout the programing and budgeting cycle. The SDT program has historically been equal to about one-fourth of the \$2 to \$3 billion in Program 7 and exceeded the entire Depot Maintenance Program during the war years.²² Should the requirement for SDT be less than fully funded by OSD, OMB, or the Congress, because of the Army's inability to defend its estimate of the requirement, the impact on Program 7 and the other budget programs can be substantial.

The SDT budget includes a myriad of detail on land transportation and other such cost as APO mail, rental and lease of equipment, bulk POL, and reimbursible expenses that require considerable effort for development, both at DA and in the commands utilizing the funds (see appendix). But, the central issue and the essence of the problem is the number of tons of cargo by commodities to be moved overocean by MSC trade route and MAC air channel and the number of dollars required to pay for that movement.

In past years both the tonnages and the cost per ton have been challenged and questioned throughout the budgeting and programing cycle. DAT had been totally dependent on a manual system to

record past performance, develop its forecast and to compute the cost per ton. The magnitude and complexity of the data to be processed dictated heavy reliance on experience and judgment rather than on the detailed mathematical analysis required to justify adequately funds in an ever more carefully scrutinized and decreasing Army budget. During the development of the FY 72 budget, OSD insisted for the first time that the cost per ton developed by the Army and the cost per ton submitted to OSD by the industrial funds be reconciled. The Army's cost per ton was much higher and while much of the difference could be explained logically, neither the industrial funds nor the Army could produce the data to fully justify their position. At the same time, as was previously pointed out, the forecast of tonnages to be moved could not be correlated with other programs or could it be directly related to requirements for supplies and equipment. Hence, both the total tonnages and the cost per ton were suspect in the eyes of COA and OSD. The resulting OSD decision was a compromise which was also based on judgment and experience rather than precise calculation. The Army's final request to OSD for FY 71, after much scrubbing by COA, was within \$12 million, or about one percent of actual expenditures, but FY 72 was understated by \$69 million.²³ This was just one of many instances when the Army found itself without the data to prove its judgment and experience in the budget process. However, no management information system could have predicted the Cambodian invasion or the gigantic US retrograde movements resulting from winding down the war, both of which required large outlays of SDT funds.

CURRENT BUDGET DEVELOPMENTS

1970 was the year of "the Transportation Dollar." The DCSLOG was seeking ways to "get a handle on the Transportation Dollar" and COA was determined to "lock the SDT funding box." The DCSLOG felt that the programing structure should be changed so that all transportation funds would be visible and hopefully managed by DCSLOG. COA was faced with an acute shortage of funds and requested DCSLOG initiate positive procedures to improve the budgeting and programing for SDT funds and to find ways to control the expenditure of the funds. A proposal to suspend the depot maintenance program was considered as one way of generating funds to pay for SDT, but was rejected. Neither COA or DCSLOG was to get their way but some positive steps were generated to provide better tools to those who had to use experience and judgment to produce the SDT budget. DAT had completed Phase 1 of the MECHTRAM System and a joint transportation study was initiated.

The manual statistical data system used by DAT prior to 1970 was not timely (six months after the fact), did not include cost, and contained considerable error. This problem had previously been recognized and the MECHTRAM System (Mechanization of Selected Transportation Reports) was being developed in-house by DAT personnel and DCSLOG's Logistics Doctrine, Systems and Readiness Agency. MECHTRAM is a fully automated management information system designed specifically to produce a series of monthly reports that provide DAT with the necessary management information for analysis and review of budget execution and to provide a historical data base for development of

forecast and budget workloads. Phase 1 of the system, which was completed in 1970, included only tonnages to and from CONUS, but this constituted about 85 percent of the total and the reports were printed and ready for review within 15 days. The reports included a page for each air channel and trade route as well as summaries of total CONUS in- and out-bound movements and summaries of movements to and from specified geographical areas of the world. This was a vast improvement in the information available to DAT, but perhaps even more important was the methodology and basic design of MECHTRAM which could easily be adapted to include both tons and their associated cost in one report when (and if) the necessary inputs were made available.

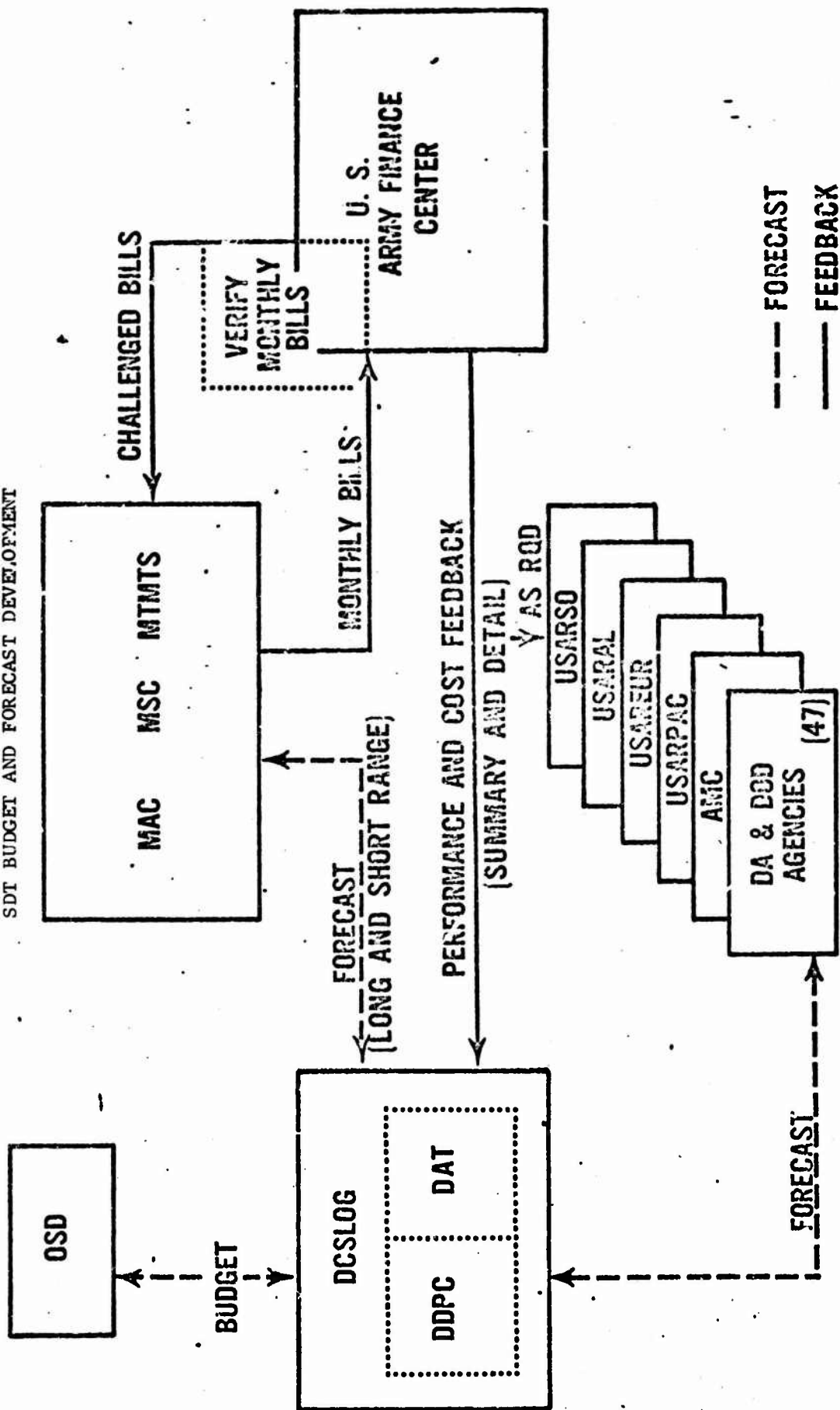
The DCSLOG and COA confrontation over transportation funds resulted in the joint Army Transportation Study. The original study was to include all transportation funds but was soon narrowed to consider only SDT funds. The study was completed in May 1971 and made numerous recommendations.²⁴ Many of them were approved and implemented, but perhaps one of the most important accomplishments was initiating the action to fully automate processing of the transportation industrial funds bills at the Finance Support Agency and to use the billing data as inputs to the MECHTRAM logic to produce reports that contain both the tons and the associated dollar costs on a monthly basis. The reports became operational in 1972 and for the first time, DAT has timely tonnage and cost data to prove precisely what is paid to ship a ton of Army cargo anywhere in the world during a period of time.

DAT is also completely automating the development of forecast and the budget submissions. (See Figure 5.) The last subsystem will be operational in May 1973. The forecast of requirements from the commands and agencies are received in card format and inputted directly into the DCSLOG Data Processing Center's (DDPC) computer. The computer compiles all the requirements into a total forecast in the MECHTRAM format, compares it to past performance, prices the requirement out, using current unit cost for each MAC channel and MSC trade route that is developed from the billing data, and prints the initial forecast and budget. DAT budget analysts then perform the functions depicted in Figure 4 and inputs the staff-developed changes into the program. Should the Budget and Fiscal Guidance provide insufficient funds for the entire requirement, or if funds are changed by other directives, the computer will accept the change and apply the reduction in any manner desired. The entire data base will be kept current throughout the year. During the operating year requirement changes can be immediately priced out, and impacts on fund balances and changes to the transportation industrial fund forecast will be automatically computed. This system will save countless man hours and will give DAT's budget analyst better tools and more time for better review and analysis.

It should be kept in mind, however, that this system is still based on historical performance data and is not a "black box" that will predict the future. The computer makes no decisions and only reacts to instructions which will be based on "experience and judgment." The problem of scientifically forecasting how much and

FIGURE 5

SDT BUDGET AND FORECAST DEVELOPMENT



what the Army will need to be transported to its area of operations, from whence it will come, the urgency of need, and cost of doing the job has not been solved.

CONCLUSIONS

It appears that notwithstanding all its shortcomings the current SDT financial management system makes the customer-oriented logistical system possible. Budgeting and funding by either the requisitioner or the supply agency would create a mammoth administrative problem and the flow of supplies to the troops would undoubtedly be slowed by more bureaucratic controls. SDT funds must be available at all times to ensure that transportation does not become a barrier to timely logistical support.

Every commander and manager in the Army must become acutely aware of the fact that there is no such thing as "free" transportation and make every effort to reduce this huge cost in logistic support.

The Army Staff and major commands must consider and attempt to quantify the impact on SDT of all major policy changes and new programs. The programing and budgeting process for SDT funds must be disciplined and SDT funding levels should be realistic with everyone, including senior officials, keeping their fingers out of the till.

The Army must develop the capability to audit the transportation industrial fund bills and must have the fortitude, supported by adequate procedures, not to pay a disputed charge. The buyer surely has the right to demand that the seller explain and fully justify his charges, thereby encouraging the seller to produce his service at the lowest possible cost.

There is yet no magic black box that will enable transportation or supply managers to precisely forecast SDT requirements eighteen months in advance nor can such a forecast be produced by any currently conceivable mathematical formula. For the foreseeable future SDT forecasts will continue to be based largely on experience and judgment, but aided by more accurate and more timely performance and cost reports. This fact should be recognized and accepted throughout the Army.


Dennis F. Wilson
LTC, TC

FOOTNOTES

1. The procurement cost (\$30,000) of the M113A1 (not improved) was provided by Cost Analysis Directorate, Office Assistant Secretary of Defense, Systems Analysis. The weight of the carrier, 20,430 lbs (10 tons) was taken from TM 9-500 Data Sheet for Ordnance Type Materiel. The airlift cost (\$1,019 per s/t) and sealift cost (\$123 per s/t) are the actual costs for channel traffic from CONUS to SEA and were provided by the Program Branch, Transportation Analyses Division, Directorate of Army Transportation, Deputy Chief of Staff for Logistics, Department of the Army (hereafter referred to as DAT).

2. Ibid.

3. Citizens Committee for the Hoover Report, Digest and Analysis of the Nineteen Hoover Commission Reports, p. 178.

4. Ibid., p. 179.

5. Interview with Mr. Leonard I. Nichols, US Office of Deputy Chief of Staff for Logistics, Department of the Army, Washington, 20 November 1972.

6. US Department of Defense, Assistant Secretary Comptroller, Working Capital Funds of the Department of Defense, 1962-1963, p. 8.

7. US Department of Army, Deputy Chief of Staff for Logistics, Army Operations, Program Element 78010A, Second Destination Transportation, Performance Factor and Dollars in Thousands, (OP-16 Submission), 20 October 1972, p. 1 (hereafter referred to as SDT Budget).

8. US Department of Army, Office of the Comptroller of the Army, Report on the Army Transportation Study, Summary, p. 13 (hereafter referred to as COM Study).

9. DAT, Fiscal Year 1971 OSD Budget Submission, (FY 71 Column \$659.5 million), Fiscal Year 1971 Presidential Budget (FY 71 Column \$457.5 million), (unpublished working papers).

10. Ibid.

11. SDT Budget, p. 4.

12. Ibid., p. 3.

13. US Department of Army, Office of the Comptroller of the Army, Status Report on the Army Transportation Study as of 25 August 1972, p. 2.

14. COA Study, Tab H, p. 16.

15. Mechanization of Selected Transportation Reports (MECHTRAM). MECHTRAM is a series of computerized management information reports of tonnages moved overocean by MAC and MSC. The original system was developed by the author and CPT James Novack for the Director of Army Transportation. The system is now in Phase III, which produces reports reflecting the tonnages and the associated dollar cost from the bills of the transportation industrial funds.

16. COA Study, Tab G, p. 3.

17. US Department of the Army, Headquarters United States Materiel Command, Letter to Deputy Chief of Staff for Logistics, Department of the Army, 2 January 1972.

18. US Department of Army, AR 55-30: Space Requirements and Performance Reports for Transportation Movements, 2 June 1972, p. 2-1. This regulation (hereafter referred to as AR 55-30) prescribes the reporting procedures for both command forecast of requirements and the reporting of performance data by MIMTS and the Finance Support Agency.

19. Ibid., Table 2-4, p. 2-7.

20. This example is based on a personal experience of the author's during development of the FY 72 budget in 1970 while serving with DAT.

21. The Major Program Director for Program 7--Central Supply and Maintenance--is the Assistant Deputy Chief of Staff for Logistics, Supply and Maintenance (DCSLOG S&M).

22. Interview with Mr. Leonard I. Nichols, US Office of Deputy Chief of Staff for Logistics, Department of the Army, Washington, 20 December 1972.

23. Ibid. Mr. Nichols and the author developed this comparison using his file copies of FY 72 OSD budget submissions and the FY 73 Presidential Budget submissions. The FY 71 requirement developed in 1969 for \$659.5 million was reduced to \$596 million in 1970 during development of the FY 72 OSD budget. The \$457 million SDT program for FY 71 was increased by \$139 million (from other Army programs) to meet the requirement. Actual expenditures for FY 71 were \$584 million. The FY 72 program was \$553 million but actual expenditures were \$622 million.

24. US Department of Army, Office of Comptroller of Army, Status Report on the Transportation Study as of 25 August.

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3. US Commission on Organization of the Executive Branch of the Government. Budgeting and Accounting; A Report to Congress. February 1949. Washington, 1949. (HJ 2051 A59)
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7. _____. Deputy Chief of Staff for Logistics. Army Operations, Program Element 78010A, Second Destination Transportation, Performance Factor and Dollars in Thousands. (OP-16 Submission) Washington, 20 October 1972.
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15. _____. Department of Defense Directive 7410.4. Vols. I and IV. Washington, 1954. (UB 157 A25 v.1 & V.6)
16. Van Buskirk, Lawrence E., COL, OrdC. The Army Industrial Fund as a Management Tool. Essay. Carlisle Barracks: US Army War College, 28 March 1968. (AWC IS-68)

APPENDIX

GP - 16

ARMY OPERATIONS

PROGRAM ELEMENT 78010A AND 43212A SECOND DESTINATION TRANSPORTATION

PART A - SUMMARY	PE	FY 71		FY 72		FY 73	
		PROGRAM	\$000	PROGRAM	\$000	PROGRAM	\$000
<u>DIRECT</u>							
PE 78010A			583,776		473,551		393,397
Cargo			(569,449)		(461,961)		(380,511)
Passenger			(2,074)		(2,541)		(2,666)
Other			(12,253)		(9,049)		(10,220)
PE 43212A			20,503		18,672		17,637
<u>REIMBURSABLE</u>							
PE 78010A			41,381		39,679		34,990
Cargo			(39,581)		(37,879)		(33,190)
Other			(1,800)		(1,800)		(1,800)
PE 43212A			6,144		5,074		5,074
<u>GROSS</u>							
PE 78010A			625,157		513,230		428,387
PE 43212A			26,647		23,746		22,711

<u>DIRECT</u>									
PE 78010A			583,776		473,551		393,397		
Military Sealift Cmd.			298,675		219,533		165,658		
Dry Cargo	M/T	8893	(286,443)	6887	(209,659)	5176	(157,530)		
Bulk POL	M/T	1400	(7,363)	1000	(5,000)	640	(3,200)		
Passengers	No.	1	(189)	1	(200)	1	(200)		
Other (FANF)	NPF		(4,680)		(4,678)		(4,678)		
Military Airlift Cmd.			119,511		90,312		71,989		
Cargo	S/T	161	117,747	141	88,082	120	69,630		
APO Mail	S/T	13	(2,738)	13	2,416	13	(2,416)		
Other	S/T	148	(114,959)	123	(85,666)	107	(67,214)		
Passengers	No.	22	1,764	18	2,230	18	2,559		

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	PE	PROGRAM	\$000	PROGRAM	\$000	PROGRAM	\$000
<u>Commercial Air</u>	S/T	70	53,786	65	47,860	60	48,739
<u>Land Transportation</u>	S/T	2981	49,021	2891	52,328	2068	45,878
<u>Thru Bill of Lading</u>	NFF		3,512		4,649		4,649
<u>Rental & Lease of Equip</u>	NFF		3,329		2,261		3,231
<u>Other Transp. Facil.</u>	NFF		2,732		1,291		1,495
<u>CONUS Port Handling</u>			53,210		55,317		56,758
Cargo	M/T	5750	(51,577)	4857	(54,387)	4265	(55,835)
Passengers	No.	30	(121)	29	(111)	23	(107)
Special Missions	NFF		(1,512)		(819)		(816)
PE 43212A							
Overseas Water Ports			20,503		18,672		17,637

PE 78010A	PF	FY 71		FY 72		FY 73	
		PROGRAM	\$000	PROGRAM	\$000	PROGRAM	\$000
<u>Military Sealift Cmd.</u>							
Dry Cargo - Outbound M/T		4927		4053		3580	
from CONUS:							
To Europe		1391		1300		1238	
To Mid-Pacific		76		99		84	
To Far East		735		550		472	
To Southeast Asia		2208		1664		1386	
To All Other		467		420		400	
Retrograde to CONUS		855		801		646	
Inter/Intra Theater		3161		2053		950	
Total Dry Cargo		8893	286,443	6887	209,655	5176	157,530
Bulk POL	M/T	1400	7,363	1000	5,000	640	3,200
Passengers	No.	1	189	1	200	1	200
Other (FANF)	NPF		4,680		4,678		4,678
TOTAL DIRECT MSC			298,675		219,533		100,658
Reimbursable			19,842		16,296		16,996
GROSS			318,517		235,829		181,654
<u>Military Airlift Cmd.</u>							
Cargo	S/T	161	117,747	141	88,082	120	69,630
Atlantic		31		30		29	
Mail		(5)		(5)		(5)	
Other		(26)		(25)		(24)	
Pacific		130		111		91	
Mail		(8)		(8)		(8)	
Other		(122)		(103)		(83)	
Passengers	No.	22	1,764	18	2,230	18	1,359
TOTAL DIRECT MAC			119,511		90,312		71,989

PF	FY 71		FY 72		FY 73	
	PROGRAM	\$000	PROGRAM	\$000	PROGRAM	\$000
<u>Commercial Air</u>						
Direct	70	53,786	65	47,860	60	48,119
APO Mail	51	(50,094)	46	(43,855)	41	(44,754)
Other	19	(3,692)	19	(4,005)	19	(4,005)
Reimbursable Other	1	312	1	300	1	300
<u>GROSS</u>						
APO Mail	65	54,098	66	48,160	61	49,119
Other	51	(51,094)	46	(43,855)	41	(44,754)
	14	(3,604)	20	(4,305)	20	(4,305)
<u>Land Transportation</u>						
Direct	2981	49,021	2891	52,328	2068	40,076
CONUS	909	(36,561)	919	(39,210)	652	(30,073)
Overseas	2072	(12,460)	1972	(13,118)	1416	(10,805)
Reimbursable	938	15,417	1381	16,943	1283	12,004
CONUS	242	(11,427)	326	(13,621)	220	(9,007)
Overseas	696	(3,990)	1055	(3,322)	1063	(3,007)
Gross	3919	64,438	4272	69,271	3351	53,082
CONUS	1151	(47,988)	1245	(52,831)	872	(39,085)
Overseas	2768	(16,450)	3027	(16,440)	2479	(14,007)
Through Bill of Lading	35	3,512	45	4,649	45	4,000
Rental & Lease of Equip						
CONUS		3,329		2,261		3,001
Overseas		(1,663)		(925)		(1,000)
		(1,666)		(1,336)		(1,000)
<u>CONUS Port Handling</u>						
Direct		53,210		55,317		50,000
Cargo	5750	(51,577)	4857	(54,387)	4265	(55,000)
Passengers	30	(121)	29	(111)	28	(107)
Special Missions		(1,512)		(819)		(800)

FY	FY 71		FY 72		FY 73	
	PROGRAM	SUCC	PROGRAM	SUCC	PROGRAM	SUCC
Reimbursable Cargo	M/T	436	4,010	384	4,340	384
Gross						
Cargo	M/T	6186	57,220	5241	59,657	5241
			55,587		58,727	
Other Transp Fac.						
Direct	NPF		2,732		1,291	
CONUS			(110)		(78)	
Ove seas			(2,622)		(1,213)	
Reimbursable O/Seas			1,800		1,800	
Gross						
CONUS			4,532		3,091	
Overseas			(110)		(78)	
			(4,422)		(3,013)	
PE 43212A						
O/Seas Water Ports	M/T					
USARPUR		1206		1127		1071
USARPAC		4316		3260		2952
OTHER		121		99		72
Total Direct			20,503		18,672	
Reimbursable			6,144		5,074	
Total Gross			26,647		23,746	